

REMARKS

The present invention is a method of decoding an encoded video signal representing a sequence of pictures, a video encoder, a video decoder, a radio telecommunications device including at least one of a video encoder and a video decoder, a method of encoding a video signal representing a sequence of pictures to form an encoded video signal, a multimedia terminal device including at least one of a video encoder and a video decoder and an encoded video signal representing a sequence of pictures. A method of encoding a video signal representing a sequence of pictures to form an encoded video signal in accordance with an embodiment of the invention includes forming a prediction of at least one of a current picture of the sequence from a default reference picture for the current picture, and providing an indicator from the current picture or a part of the current picture, the indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal. See page 6, lines 21-30, through page 7, lines 1-31, of the original specification for a discussion of the utilization of encoding a video signal in which an indicator is utilized in the circumstance where a decoder lacks an actual reference picture to provide a spare picture which is referred to as an alternative reference picture in the claims to be used for decoding if a default reference picture is lost. The spare alternative reference picture is described as being with respect to a whole picture or part of a picture.

Claims 6, 7, 9 and 12 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim

the subject matter which applicant regards as the invention. The claims have been amended to overcome the stated grounds of rejection.

Claims 1-3, 7, 8 and 10 stand rejected under 35 U.S.C. §102 as being anticipated by United States Patent 5,198,901, claims 9 and 11 stand rejected under 35 U.S.C. §102 as being anticipated by United States Patent 5,198,901, claims 9 and 11 stand rejected under 35 U.S.C. §102 as being anticipated by United States Patent 5,455,629 (Sun et al), claims 5 and 13 stand rejected under 35 U.S.C. §103 as being unpatentable over Lynch in view of Sun et al, claim 12 stands rejected under 35 U.S.C. §103 as being unpatentable over Lynch and Sun further in view of U.S. Publication 2002/0009141 (Yamaguchi et al), and claim 6 stands rejected as being obvious over Lynch in view of ITU-Telecommunications Standardization Section. These grounds of rejection are traversed for the following reasons.

Claims 1-13 and newly submitted claims 14-63 recite substantively forming a video signal representing a sequence of pictures utilizing a prediction of at least part of a current picture of the sequence from a default reference picture for the current picture and providing an indicator from the current picture or a part of the current picture with the indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or the part of the current picture when decoding the encoded video signal. This subject matter has no counterpart in Lynch, Sun et al and Yamaguchi et al, and the ITU Telecommunications Standardization Section alone or in combination.

Figure 2 of Lynch illustrates a motion vector mv 20 which indicates a position of a block in I0 that matches best with a particular motion block to be coded in B2 and a motion vector mv 23 which indicates a position of a best matching region in

P3. Upon identifying the best matching regions I0 and P3, there are three possible ways of encoding the motion block in B2 which are backward mode in which a prediction for the motion block is formed from the following reference frame P3 using mv 23, forward mode in which a prediction from the motion block is formed from the predicting reference frame I0 using motion vector mv 20; and interpolative mode in which the matching blocks I0 and P3 are averaged. Each of the encoding modes calculates a mean square (MSE) which provides an indication of one of the three alternative encoding modes providing the smallest prediction error which is the mode which is used to encode the particular motion block. See column 2, lines 7-8.

With regard to forward or backward mode, there is a single reference which may be I0 or P3 which is used as a default reference frame. If either a forward mode or backward mode provides the smallest MSE, the corresponding motion vector mv 23 or mv 20 is transmitted to the decoder together with an indication of a default reference frame to be used in prediction as described in column 2, lines 6-13.

In the interpolative mode, both motion vectors mv 23 and mv 20 are transmitted along with an indication that both vectors are being transmitted as described in column 2, lines 14-16. The average of the best matching blocks from the respective reference frames is then used at the decoder in order to decode or reconstruct the encoded picture. In this situation, there are two default reference frames since when the interpolative mode is chosen, both I0 and P3 are used together with the respective motion vectors mv 20 and mv 23. Neither one of the two (default) reference frames can be used in isolation or independently to form the prediction for the motion block in B2. It is submitted that a person of ordinary skill in

the art would not consider any of the backward mode, forward mode or interpolative modes of Lynch to meet the claimed limitations of an indicator for a current picture or part of a current picture identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or part of the current picture when decoding the encoded video signal.

Sun et al teach when an error occurs in pieces of information within a bit stream that the decoder should identify which pieces of information are corrupted, excise those parts of the bit stream and subsequently replace any lost or corrupted information with alternative values which occur at the decoder. Sun's system keeps the decoder working by substituting replacement values into the bit stream for decoding even if the resultant image produced is quite different from what it should be. Moreover, the decoding process is not affected by the substitution of replacement values with the replacement values being decoded as if they were the intended original values.

The video coding system of Sun et al is significantly different than that of the present invention as recited in the claims. It is submitted that Sun et al do not disclose the claimed encoding that identifies an alternative value with Sun's alternatives being provided by the decoder.

In accordance with the claimed invention, the decoder does not identify alternative values for missing or corrupted information within a bit stream. Instead, on the encoding side, the video is processed to provide an alternative reference picture for the current picture or the part of the current picture when decoding the encoded video signal. Accordingly, a person of ordinary skill in the art would not consider Sun et al to be relevant to the claimed subject matter.

Moreover, Yamaguchi has been cited as disclosing a telecommunications device. However, Yamaguchi et al do not cure the deficiencies noted above with respect to Lynch and Sun et al.

Finally, the citation of the ITU-Telecommunications Standardization Sector for specifics of video according to the H.623 video compression standard and an indicator do not cure the deficiencies noted above with respect to Lynch.

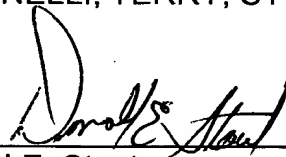
In view of the foregoing amendments and remarks, it is submitted that each of the claims in the application is in condition for allowance.

Accordingly, early allowance thereof is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 C.F.R. §1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (1344.40127X00) and please credit any excess fees to such Deposit Account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

A handwritten signature in black ink, appearing to read "Donald E. Stout", is written over a horizontal line.

Donald E. Stout
Registration No. 26,422
(703) 312-6600

Attachments

DES:dlh